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<130> 690022.547

<141> 2000-06-05

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<170> FastSEQ for Windows Version 4.0
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<211> 638

<213> Streptomyces avidinii

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| cgtcgttgca | gccatcgccg | tttccctgac | cacgggtctcg | attacggcca | gcgcttcggc | 120 |
| agaccctcc | aaggactcga | aggcccaggt | ctcggccgcc | gaggccggca | tcaccggcac | 180 |
| ctggtacaac | cagctcggct | cgacctcat | cgtgaccgcy | ggcgccgacg | gcgccttgac | 240 |
| cggaaacctac | gagtcggccg | tcggcaacgc | cgagagccgc | tacgtcctga | ccggtcggtta | 300 |
| cgacagcgcc | ccggccaccg | acggcagcgg | caccgccttc | ggttggaacg | tggcctggaa | 360 |
| gaataactac | cgcaacgccc | actccgcgac | cacgtggagc | ggccagtagc | tcggcgggcg | 420 |
| cgaggcgagg | atcaacaccc | agtggctgct | gacctccggc | accaccgagg | ccaacgcctg | 480 |
| gaagtcacag | ctggtcggcc | cgcgaacctt | caccaaggtc | aagccgtccg | ccgcctccat | 540 |
| cgaagcgccg | aagaaggccg | cgcgaacaa | cggcaacctg | ctcgacgcgc | ttcagcagta | 600 |
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<212> PRT

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Arg | Lys | Ile | Val | Val | Ala | Ala | Ile | Ala | Val | Ser | Leu | Thr | Thr | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Ile | Thr | Ala | Ser | Ala | Ser | Ala | Asp | Pro | Ser | Lys | Asp | Ser | Lys | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Val | Ser | Ala | Ala | Glu | Ala | Gly | Ile | Thr | Gly | Thr | Trp | Tyr | Asn | Gln |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Gly | Ser | Thr | Phe | Ile | Val | Thr | Ala | Gly | Ala | Asp | Gly | Ala | Leu | Thr |

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<212> DNA
<213> Streptomyces avidinii
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<212> PRT

<213> Streptomyces avidinii

<400> 4

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Met Arg Lys Ile Val Val Ala Ala Ile Ala Val Ser Leu Thr Thr Val
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      20           25           30
Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser
      35           40           45
Gln Gly Ile Arg Gly Asn Leu Asp Trp Tyr Gln Gln Lys Pro Gly Lys
      50           55           60
Gly Pro Lys Leu Leu Ile Tyr Ser Thr Ser Asn Leu Asn Ser Gly Val
      65           70           75           80
Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Ser Asp Tyr Thr Leu Thr
      85           90           95
Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln
      100           105           110
Arg Asn Ala Tyr Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile
      115           120           125
Lys Ile Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly
      130           135           140
Gly Ser Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
      145           150           155           160
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Phe Asn Ile
      165           170           175
Lys Asp Thr Tyr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
      180           185           190
Gln Trp Met Gly Arg Ile Asp Pro Ala Asn Gly Asn Thr Lys Ser Asp
      195           200           205
Leu Ser Phe Gln Gly Arg Val Thr Ile Thr Ala Asp Thr Ser Ile Asn
      210           215           220
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val
      225           230           235           240
Tyr Tyr Cys Ser Arg Glu Val Leu Thr Gly Thr Trp Ser Leu Asp Tyr
      245           250           255
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Ser Gly Ser Ala
      260           265           270
Asp Pro Ser Lys Asp Ser Lys Ala Gln Val Ser Ala Ala Glu Ala Gly
      275           280           285
Ile Thr Gly Thr Trp Tyr Asn Gln Leu Gly Ser Thr Phe Ile Val Thr
      290           295           300
Ala Gly Ala Asp Gly Ala Leu Thr Gly Thr Tyr Glu Ser Ala Val Gly
      305           310           315           320
Asn Ala Glu Ser Arg Tyr Val Leu Thr Gly Arg Tyr Asp Ser Ala Pro
      325           330           335
Ala Thr Asp Gly Ser Gly Thr Ala Leu Gly Trp Thr Val Ala Trp Lys
      340           345           350
Asn Asn Tyr Arg Asn Ala His Ser Ala Thr Thr Trp Ser Gly Gln Tyr
      355           360           365
Val Gly Gly Ala Glu Ala Arg Ile Asn Thr Gln Trp Leu Leu Thr Ser
      370           375           380
Gly Thr Thr Glu Ala Asn Ala Trp Lys Ser Thr Leu Val Gly His Asp
      385           390           395           400

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00000-0255560

Thr Phe Thr Lys Val Lys Pro Ser Ala Ala Ser Ile Asp Ala Ala Lys
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 Lys Ala Gly Val Asn Asn Gly Asn Pro Leu Asp Ala Val Gln Gln
 420 425 430

<210> 5
 <211> 1239
 <212> DNA
 <213> Streptomyces avidinii

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 tcctccccc aaccctggat ttatgccaca tccaacctgg cttctggagt ccctgctcgc 180
 ttcagtggca gtgggtctgg gacctcttac tctctcacia tcagcagagt ggaggctgaa 240
 gatgctgcca cttattactg ccagcagtggt attagtaacc caccacggt cgggtgctggg 300
 accaagctgg agctgaagat ctctgggtctg gaaggcagcc cggaagcagg tctgtctccg 360
 gacgcaggtt ccggctcgag ccaggttcag ctggtccagt caggggctga gctggtgaag 420
 cctggggcct cagtgaagat gtcttgcaag gcttctgggt acacatttac cagttacaat 480
 atgcactggg taaagcagac acctggacag ggcttggaat ggattggagc tatttatcca 540
 ggaaatggtg atacttccta caatcagaag ttcaaaggca aggccacatt gactgcagac 600
 aaatcctcca gcacagccta catgcagctc agcagcctga catctgagga ctctgcggtc 660
 tattactgtg caagagcgca attacgacct aactactggt acttcgatgt ctggggcgca 720
 gggaccacgg tcaccgtgag ctctgggtctt gggtcggcag acccctccaa ggactcgaag 780
 gccaggtct cggccgcgca ggccggcctc accggcacct ggtacaacca gctcggctcg 840
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 ggcaacgccg agagccgcta cgtcctgacc ggtcgttacg acagcgcccc ggccaccgac 960
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 tccgcgacca cgtggagcgg ccagtagctc ggccggcgcc aggcgaggat caacaccag 1080
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<210> 6
 <211> 412
 <212> PRT
 <213> Streptomyces avidinii

<400> 6
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 Glu Lys Val Thr Met Thr Cys Arg Ala Ser Ser Ser Val Ser Tyr Met
 20 25 30
 His Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Pro Trp Ile Tyr
 35 40 45
 Ala Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
 50 55 60
 Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Arg Val Glu Ala Glu
 65 70 75 80
 Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ile Ser Asn Pro Pro Thr
 85 90 95
 Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Ile Ser Gly Leu Glu Gly
 100 105 110
 Ser Pro Glu Ala Gly Leu Ser Pro Asp Ala Gly Ser Gly Ser Ser Gln

115 120 125
 Val Gln Leu Val Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala Ser
 130 135 140
 Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr Asn
 145 150 155 160
 Met His Trp Val Lys Gln Thr Pro Gly Gln Gly Leu Glu Trp Ile Gly
 165 170 175
 Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn Gln Lys Phe Lys
 180 185 190
 Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met
 195 200 205
 Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala
 210 215 220
 Arg Ala Gln Leu Arg Pro Asn Tyr Trp Tyr Phe Asp Val Trp Gly Ala
 225 230 235 240
 Gly Thr Thr Val Thr Val Ser Ser Gly Ser Gly Ser Ala Asp Pro Ser
 245 250 255
 Lys Asp Ser Lys Ala Gln Val Ser Ala Ala Glu Ala Gly Ile Thr Gly
 260 265 270
 Thr Trp Tyr Asn Gln Leu Gly Ser Thr Phe Ile Val Thr Ala Gly Ala
 275 280 285
 Asp Gly Ala Leu Thr Gly Thr Tyr Glu Ser Ala Val Gly Asn Ala Glu
 290 295 300
 Ser Arg Tyr Val Leu Thr Gly Arg Tyr Asp Ser Ala Pro Ala Thr Asp
 305 310 315 320
 Gly Ser Gly Thr Ala Leu Gly Trp Thr Val Ala Trp Lys Asn Asn Tyr
 325 330 335
 Arg Asn Ala His Ser Ala Thr Thr Trp Ser Gly Gln Tyr Val Gly Gly
 340 345 350
 Ala Glu Ala Arg Ile Asn Thr Gln Trp Leu Leu Thr Ser Gly Thr Thr
 355 360 365
 Glu Ala Asn Ala Trp Lys Ser Thr Leu Val Gly His Asp Thr Phe Thr
 370 375 380
 Lys Val Lys Pro Ser Ala Ala Ser Ile Asp Ala Ala Lys Lys Ala Gly
 385 390 395 400
 Val Asn Asn Gly Asn Pro Leu Asp Ala Val Gln Gln
 405 410

<210> 7

<211> 1280

<212> DNA

<213> Streptomyces avidinii

<400> 7

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| tgaagatgtc | ctgcaaggct | tctggctaca | catttaccag | ttacaatatg | cactgggtaa | 120 |
| agcagacacc | tggacagggc | ctggaatgga | ttggagctat | ttatccagga | aatggtgata | 180 |
| cttcctacaa | tcagaagttc | aaaggcaagg | ccacattgac | tgcaagacaaa | tcctccagca | 240 |
| cagcctacat | gcagctcagc | agcctgacat | ctgaggactc | tgcggtctat | tactgtgcaa | 300 |
| gagcgcaatt | acgacctaac | tactggtact | tcgatgtctg | gggcgcaggg | accacggtca | 360 |
| ccgtgagcaa | gatctctggg | ggcgggtggc | cgggcgggtg | tgggtcgggt | ggcggcggct | 420 |
| cgggtggtgg | tgggtcgggc | ggcggcggct | cgagcgacat | cgtgctgtcg | cagtctccag | 480 |
| caatcctgtc | tgcattctca | ggggagaagg | tcacaatgac | ttgcagggcc | agctcaagtg | 540 |
| taagttacat | gcactggtac | cagcagaagc | caggatcctc | ccccaaaccc | tggatttatg | 600 |

```

ccacatccaa cctggcttct ggagtccttg ctgcttcag tggcagtggg tctgggacct 660
cttactctct cacaatcagc agagtggagg ctgaagatgc tgccacttat tactgccagc 720
agtggattag taaccacccc acgttcggtg ctgggaccaa gctggagctg aagagctctg 780
gctctgggtc ggcagacccc tccaaggact cgaaggccca ggtctcggcc gccgaggccg 840
gcatcacccg cacctggtac aaccagctcg gctcgacctt catcgtgacc gcggggcgccg 900
acggcgccct gaccggaacc tacgagtcgg ccgtcggcaa cgccgagagc cgctacgtcc 960
tgaccggctg ttacgacagc gccccggcca ccgacggcag cggcaccgcc ctcggttgga 1020
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<210> 8

<211> 423

<212> PRT

<213> Streptomyces avidinii

<400> 8

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Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
      20      25      30
Ser Tyr Asn Met His Trp Val Lys Gln Thr Pro Gly Gln Gly Leu Glu
      35      40      45
Trp Ile Gly Ala Ile Tyr Pro Gly Asn Gly Asp Thr Ser Tyr Asn Gln
      50      55      60
Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr
      65      70      75      80
Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr
      85      90      95
Tyr Cys Ala Arg Ala Gln Leu Arg Pro Asn Tyr Trp Tyr Phe Asp Val
      100     105     110
Trp Gly Ala Gly Thr Thr Val Thr Val Ser Lys Ile Ser Gly Gly Gly
      115     120     125
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly
      130     135     140
Ser Gly Gly Gly Gly Ser Ser Asp Ile Val Leu Ser Gln Ser Pro Ala
      145     150     155     160
Ile Leu Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr Cys Arg Ala
      165     170     175
Ser Ser Ser Val Ser Tyr Met His Trp Tyr Gln Gln Lys Pro Gly Ser
      180     185     190
Ser Pro Lys Pro Trp Ile Tyr Ala Thr Ser Asn Leu Ala Ser Gly Val
      195     200     205
Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr
      210     215     220
Ile Ser Arg Val Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys Gln Gln
      225     230     235     240
Trp Ile Ser Asn Pro Pro Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu
      245     250     255
Lys Ser Ser Gly Ser Gly Ser Ala Asp Pro Ser Lys Asp Ser Lys Ala
      260     265     270
Gln Val Ser Ala Ala Glu Ala Gly Ile Thr Gly Thr Trp Tyr Asn Gln

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000000-000000

275 280 285
 Leu Gly Ser Thr Phe Ile Val Thr Ala Gly Ala Asp Gly Ala Leu Thr
 290 295 300
 Gly Thr Tyr Glu Ser Ala Val Gly Asn Ala Glu Ser Arg Tyr Val Leu
 305 310 315 320
 Thr Gly Arg Tyr Asp Ser Ala Pro Ala Thr Asp Gly Ser Gly Thr Ala
 325 330 335
 Leu Gly Trp Thr Val Ala Trp Lys Asn Asn Tyr Arg Asn Ala His Ser
 340 345 350
 Ala Thr Thr Trp Ser Gly Gln Tyr Val Gly Gly Ala Glu Ala Arg Ile
 355 360 365
 Asn Thr Gln Trp Leu Leu Thr Ser Gly Thr Thr Glu Ala Asn Ala Trp
 370 375 380
 Lys Ser Thr Leu Val Gly His Asp Thr Phe Thr Lys Val Lys Pro Ser
 385 390 395 400
 Ala Ala Ser Ile Asp Ala Ala Lys Lys Ala Gly Val Asn Asn Gly Asn
 405 410 415
 Pro Leu Asp Ala Val Gln Gln
 420

<210> 9
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> pKOD linker

<400> 9
 Gly Leu Glu Gly Ser Pro Glu Ala Gly Leu Ser Pro Asp Ala Gly Ser
 1 5 10 15
 Gly Ser

<210> 10
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Linker used to create a scFvSA version of
 anti-CD20mAb, B9E9 in the VLVH orientation

<400> 10
 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 1 5 10 15

<210> 11
 <211> 25
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Linker used to create a version of B9E9 scFvSA in

00330-020300

<400> 11
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15
Gly Gly Gly Ser Gly Gly Gly Gly Ser
20 25

<220>
<223> Oligonucleotide primer

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<210> 13
<211> 31
<212> DNA
<213> Artificial Sequence
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<220>
<223> Oligonucleotide primer

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<210> 14
<211> 35
<212> DNA
<213> Artificial Sequence
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<220>
<223> Oligonucleotide primer
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<400> 14
tagctggcgg ccgccctgtt gaagctcttg acaat 35

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<210> 15
<211> 34
<212> DNA
<213> Artificial Sequence
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<220>
<223> Oligonucleotide primer

<400> 15
tagctggcgqg ccgcttttctt gtccaccttg gtgc 34

<210> 16
<211> 47

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer

 <400> 16
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 <210> 17
 <211> 32
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer

 <400> 17
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 <210> 18
 <211> 52
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer

 <400> 18
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 <210> 19
 <211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer

 <400> 19
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 <210> 20
 <211> 58
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer

 <400> 20
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 <210> 21

<211> 58
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer

 <400> 21
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 <210> 22
 <211> 50
 <212> DNA
 <213> Artificial Sequence

 <220>
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 <400> 22
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 <210> 23
 <211> 37
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer

 <400> 23
 ttccggctcg agcgacatcg tgctgtcgca gtctcca 37

 <210> 24
 <211> 32
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 <220>
 <223> Oligonucleotide primer

 <400> 24
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 <210> 25
 <211> 35
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Oligonucleotide primer

 <400> 25
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00000-00000

35

60

60

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<210> 30
<211> 35
<212> PRT
<213> Artificial Sequence
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<220>

<223> Linker sequence

<400> 30

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 1 5 10 15
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
 20 25 30
 Gly Gly Ser
 35

<210> 31

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Linker sequence pKOD2

<400> 31

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 1 5 10 15
 Asp Ser

<210> 32

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

<400> 32

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<210> 33

<211> 21

<212> DNA

<213> Artificial Sequence

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<223> Oligonucleotide primer

<400> 33

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<210> 34

<211> 33

<212> DNA

<213> Artificial Sequence

<220>

<223> Oligonucleotide primer

005090-0486360

<400> 34
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<210> 35
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<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide primer

<400> 35
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<210> 36
<211> 783
<212> DNA
<213> Streptomyces avidinii

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ctcatctatc gtgcacccaa cctagaatct gggatccctg tcagggttcag tggcactggg 660
tctaggacag acttcaccct catcattgat cctgtggagg ctgatgatgt tgccacctat 720
tactgtcagc aaactaatga ggatccgtac acgttcggag gggggaccaa gctggaaata 780
aag 783

<210> 37
<211> 786
<212> DNA
<213> Streptomyces avidinii

<400> 37
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ccggaacagg gcctggaatg gattgggtgg attgatccgg aaaatgggtga taccgaatat 180
gccccgaagt tccagggcaa agccacgatg accaccgata cctcctcaa caccgcctac 240
ctgcagctca ccagcctgac ctctgaagat accgcogtct attactgtaa taccogtggg 300
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gtcagtgcat ctggctatag ttatatgcat tggtagcaac agcgtccggg tcagccggcg 600
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agtgggtctg ggaccgattt caccctcaac atccatccgg tggagaaga agatgctgca 720

acctattact gtcagcatag tegtgaactt ccgacgttcg gtggtggcac caaactggaa 780
atcaag 786

<210> 38
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<212> DNA
<213> Streptomyces avidinii

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gttgaagagt ttaagggctg ctttgccctt tctttggaga cctctgccac cactgcctat 240
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tccacttcag taggtgatcg tgtcagcgtc acctgcaaag ccagtcagaa tgtgggtacg 540
aatgttgctt ggtatcaaca gaaaccgggt caatccccga aagcactgat ttactcgga 600
tcctaccgtt acagtgggtg cccggatcgc ttcacgggca gtgggttctgg gaccgatttc 660
acgtcacca tcagcaatgt acagtctgaa gacttggcgg agtatttctg tcatcaatat 720
tacacctatc cgttattcac gttcggctcg gggaccaagt tggaaatgaa g 771

<210> 39
<211> 762
<212> DNA
<213> Streptomyces avidinii

<400> 39
caggtgaaac tgcagcagtc tgggtgcagaa cttgtgcgtt cagggacctc agtcaaattg 60
tcctgcaccg cttctggctt caacattaaa gattcctata tgcattgggt gcgtcagggt 120
ccggaacagg gcctggaatg gattgggttg attgatccgg agaatgggtga tactgaatat 180
gcaccgaagt tccagggcaa agccaccttt actaccgata cctcctccaa caccgcctac 240
ctgcagctca gcagcctgac ctctgaagat actgcogtct attattgtaa tgaagggact 300
ccgactggtc cgtactactt tgattactgg ggtcaaggga ccacggtcac cgtctccaag 360
atctctgggt gcgggtggctc gggcggtgggt gggtcgggtg gcggcggtc ggggtgggtg 420
gggtcgggcg gcggcggtc gagcgaaaat gtgtcaccc agtctccggc aatcatgtct 480
gcatctccgg gtgagaaagt caccattacc tgcagtgcc gctcaagtgt aagttacatg 540
cattggttcc agcagaaacc gggtaactct ccgaaactct ggatttatag cactccaac 600
ctggttctg gtgttcggc tcgcttcagt ggcagtgggt ctgggacctc ttactctctc 660
accatcagcc gtatggaagc tgaagatgct gccacttatt actgccagca acgtagtagt 720
tatccgtca cgttcgggtc tggcaccaaa ctggaactga ag 762

<210> 40
<211> 765
<212> DNA
<213> Streptomyces avidinii

<400> 40
caggtccaac tacagcagtc agggggagac ttagtgaagc ctggagggtc cctaaaattc 60
tcctgtgcag cctctggatt ccttttcaat cgctatgcc tgtcttgggt tcgccagact 120
ccagagaaga ggctggagt ggtcgcattc attagtagtg atggtatcgc ctactatgca 180
gacagtgtga agggccgatt caccatctcc agagataatg ccaggaacat cctgtacct 240
caaatgagca gtctgaggtc tgaggacacg gccatgtatt actgtgcaag agtttattac 300

| | | | | | | |
|------------|------------|------------|-------------|------------|------------|-----|
| tacggtagta | gttactttga | ctactggggc | caagggacca | cggtcacctg | gagcaagatc | 360 |
| tctggtggcg | gtggctcggg | cggtggtggg | tgggtggcg | gcggctcggg | tggtggtggg | 420 |
| tggggcggcg | gcggctcgag | cgacatccag | atgactcagt | ctccaaaatt | catgcccaca | 480 |
| tcagtaggag | acagggtcag | cgtcacctgc | aaggccagtc | agaatgcggg | tactaatgta | 540 |
| gcctggtatc | aacagaaacc | agggcaatct | cctaaagcac | tgatttactc | ggcatcgtct | 600 |
| cggaacagtg | gagtcctga | tgccttcaca | ggcagtggtat | ctgggacaga | tttactctc | 660 |
| accatcagca | atgtgcagtc | tgaagacttg | gcagagtatt | tctgtcagca | atataacagc | 720 |
| tatcctctgg | tcacgttcgg | tgctgggacc | aagctggaaa | taaag | | 765 |

<210> 41

<211> 768

<212> DNA

<213> Streptomyces avidinii

<400> 41

| | | | | | | |
|-------------|-------------|-------------|------------|------------|-------------|-----|
| caggttcagt | tgacgcagtc | tgatgctgaa | ttggtgaaac | cggtgcttc | agtgaaaatt | 60 |
| tctgcaaag | cttctggcta | caccttcacc | gatcatgcaa | ttcattgggt | gaaacagaac | 120 |
| ccggaacagg | gcctggaatg | gattgggttat | ttctctccgg | gtaatgatga | tttcaaatac | 180 |
| aatgaacgtt | tcaaaggcaa | agccacgctg | accgcagata | aatcctccag | caccgcctac | 240 |
| gtgcagctca | acagcctgac | gtctgaagat | tctgcagtg | atttctgtac | gcgttcctctg | 300 |
| aatatggcct | actgggggtca | aggtacctca | gtcacctct | ccaagatctc | tggtggcggg | 360 |
| ggctcggggcg | gtggtgggtc | gggtggcggc | ggctcgggtg | gtggtgggtc | gggcggcggc | 420 |
| ggctcgagcg | atattgtgat | gtcacagtct | ccgtcctccc | taccgggtgc | agttggcgaa | 480 |
| aaagttacct | tgagctgcaa | atccagtcag | agccttttat | atagtggtaa | tcagaaaaac | 540 |
| tacttggcct | ggtaccagca | gaaaccgggt | cagtctccga | aactgctgat | ttactgggca | 600 |
| tccgctcgtg | aatctggggg | cccggatcgc | ttcacgggca | gtggttctgg | gaccgatttc | 660 |
| acctctcca | tcagcagtg | gaaaaccgaa | gacctggcag | tttattactg | tcagcagtat | 720 |
| tatagctatc | cgctcacgtt | cggtgctggg | accaaactgg | tgctgaag | | 768 |

<210> 42

<211> 765

<212> DNA

<213> Streptomyces avidinii

<400> 42

| | | | | | | |
|-------------|------------|-------------|------------|-------------|-------------|-----|
| gaagtgaaac | ttgaagagtc | tggtggtggc | ttggtgcaac | cggtggtctc | catgaaactc | 60 |
| tcttgtgctg | cttctggctt | cacctttagt | gatgcctgga | tggtattgggt | ccgccagtct | 120 |
| ccggagaaaag | ggcttgaatg | ggttgcctgaa | attcgtaaca | aagccaataa | tcatgggtacc | 180 |
| tattatgatg | agtctgtgaa | agggcgcttc | accatctcac | gtgatgattc | caaaagtcgt | 240 |
| gtgtacctgc | aaatgattag | cttacgtgct | gaagataccg | ggctttatta | ctgtaccggg | 300 |
| gaatttgcta | actggggcca | ggggacgctg | gtcacctct | ctaagatctc | tggtggcggg | 360 |
| ggctcggggcg | gtggtgggtc | gggtggcggc | ggctcgggtg | gtggtgggtc | gggcggcggc | 420 |
| ggctcgagcg | atgttgtgat | gacccaaact | ccgtctctcc | tgccgggtcac | tcttgggtgat | 480 |
| caagcttcca | tctcttgccg | ttctagtcag | aaccttgtac | ataacaatgg | taacacctat | 540 |
| ttatattggg | tctgcagaa | atcaggccag | tctccgaaac | tgctgattta | tcgcgcaccc | 600 |
| atccgctttt | ctggtgtccc | ggatcgcttc | agtggcagtg | gttcagaaac | cgatttcacg | 660 |
| ctcaagatca | gccgtgtgga | agctgaagac | ctgggtgttt | atttctgctt | tcaagggtacg | 720 |
| catgttccgt | ggacgttcgg | tggtggcacc | aaactggaaa | tcaag | | 765 |

<210> 43

<211> 741

<212> DNA

<213> Streptomyces avidinii

00000-02000000

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-----|
| caggtgcagc | ttcaggagtc | aggacctggc | cttgtgaaac | cctcacagtc | actctccctc | 60 |
| acctgttccg | tacttggtta | ctccatcact | actgattact | ggggctggat | ccggaagttc | 120 |
| ccaggaaata | aaatggagtg | gatgggatac | ataagctaca | gtggtagcac | tggctacaac | 180 |
| ccatctctca | aaagtccaat | ctccattact | agagacacat | cgaagagtca | gttcttcctg | 240 |
| cagttgaact | ctgtaactac | tgaggacaca | gccacatatt | actgtgcaag | atacagtagc | 300 |
| cttgattact | ggggccgagg | agtcatggtc | gcagtctcca | agatctctgg | tggcggtggc | 360 |
| tcgggcggtg | gtgggtcggg | tggcggcggc | tcgggtgggtg | gtgggtcggg | cggcggcggc | 420 |
| tcgagcgatg | tttgtgatgac | ccagacacca | ccgtctttgt | cgggtgccat | tggacaatca | 480 |
| gtctccatct | cttgcaagtc | aagtcagagc | ctcgtatata | gtgatgaaa | gacataattg | 540 |
| cattggttat | tacagagtc | tggcaggtct | ccgaagcgcc | taatctatca | ggtgtctaata | 600 |
| ctgggctctg | gagtccttga | caggttcaagt | ggcactggat | cacagaaaaga | ttttacactt | 660 |
| aaaatcagca | gagtgagggc | tgaggatttg | ggagtttact | actgcgcgca | aactacacat | 720 |
| tttctctctca | cgttcgggttc | g | | | | 741 |

<213> Streptomyces avidinii

| | | | | | | |
|-------------|-------------|------------|-------------|-------------|------------|-----|
| caggttcagc | tgggtccagtc | aggggctgag | ctgggtgaagc | ctgggggcctc | agtgaagatg | 60 |
| tctctgaagg | cttctggcta | cacatttacc | agttacaata | tgcactgggt | aaagcagaca | 120 |
| cctggacagg | gcctggaatg | gattggagct | atttatccag | gaaatgggtga | tacttctac | 180 |
| aatcagaagt | tcaaaggcaa | ggccacattg | actgcagaca | aatcctccag | cacagcctac | 240 |
| atgcagctca | gcagcctgac | atctgaggac | tctgcggtct | attactgtgc | aagagcgcaa | 300 |
| ttacgacctt | actactggta | cttcgatgtc | tggggcgcag | ggaccacggg | caccgtgagc | 360 |
| aagatctctg | gtggcggtgg | ctcgggcggg | ggggggctcg | gtggcggcgg | ctcgggtggg | 420 |
| gggtgggtcgg | gcggcggcgg | ctcgagcgag | atcgtgctgt | cgcagtctcc | agcaatcctg | 480 |
| tctgcattct | cagggggagaa | ggtcacaatg | acttgcaggg | ccagctcaag | tgtaaattac | 540 |
| atgcactggg | accagcagaa | gccaggatcc | tcccccaaac | cttggattta | tgccacattc | 600 |
| aacctgggctt | ctggagtcct | tgctcgcttc | agtggcagtg | gggtctgggg | ctcttactct | 660 |
| ctcacaatca | gcagagtggg | ggctgaagat | gctgccactt | attactgccg | gcagtggatt | 720 |
| agtaaccctc | ccacgttcgg | tgctgggacc | aagctggagc | tgaag | | 765 |

<213> Streptomyces avidinii

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| cagggttcagc | tgcaacagcc | aggggctgag | ctggtgaagc | ctggggcctc | agtgaagatg | 60 |
| tcctgcaagg | cttctggcta | cacatttacc | agttacaata | tgactctggg | aaagcagaca | 120 |
| cctggacagg | gcctggaatg | gattggagct | atttatccag | gaaatggtga | tacttcctac | 180 |
| aatcagaagt | tcaaaggcaa | ggccacattg | actgcagaca | aatcctccag | cacagcctac | 240 |
| atgcagctca | gcagcctgac | atctgaggac | tctgcggtct | attactgtgc | aagaagcacc | 300 |
| tattacggcg | gtgattggta | cttcaacgtc | tggggcgag | ggaccacggt | caccgtgagc | 360 |
| aagatctctg | gtggcgggtg | ctcgggcggt | ggtgggtcgg | gtggcggcgg | ctcgggtggt | 420 |
| ggtgggtcgg | gcggcggcgg | ctcgagccag | atcgtgctgt | cgcagtctcc | agcaatcctg | 480 |
| tctgcatctc | caggggagaa | ggtcacaatg | acttgcaagg | ccagctcaag | tgtaagttac | 540 |
| attcactggt | ttcagcagaa | gccagatccc | tccccaaac | cctggattta | tgccacatcc | 600 |
| aacctggctt | ctggagtccc | tgtgcgcttc | agtggcagtg | ggtctgggac | ctcttactct | 660 |
| ctcacaatca | gcagagtggg | ggctgaagat | gctgccattt | attactgcca | gcagtggacc | 720 |
| agtaaccac | ccacgttcgg | tggcgggacc | aagctggaga | tcaag | | 765 |

<210> 46
 <211> 780
 <212> DNA
 <213> *Streptomyces avidinii*

<400> 46
 caggttcagc tgggtggaatc aggaggtggc ctggtgcagc ctggaggatc cctgaaactc 60
 tectgtgcag cctcaggatt cgatttcagt agatactgga tgagttgggt ccggcaggct 120
 ccagggaaaag ggctagaatg gattggagag attaatccaa ctagcagtac gataaacttt 180
 acgccatctc taaaggataa agtcttcac tccagagaca acgcaaaaaa tacgctgtac 240
 ctgcaaataga gcaaagtga atccgaggac acagcccttt attactgtgc aagaggggaaac 300
 tactataggt acggagatgc tatggactac tgggggtcaag gaacctcagt caccgtgagc 360
 aagatctctg gtggcggtgg ctggggcggt ggtgggtcgg gtggcgggcg ctcgggtggt 420
 ggtgggtcgg gcggcgggcg ctcgagcgac atcgtgctga ccagtcctcc tgcttcctta 480
 gctgtatctc tgggacagag ggccaccatc tcatgcaggg ccagcaaaag tgtcagtaca 540
 tctggctata gttatctgca ctggtaccaa cagaaaccag gacagccacc caaactcctc 600
 atctatcttg catccaacct agaatctggg gtccctgccg ggttcagtgg cagtgggtct 660
 gggacagact tcacctcaa catccatcct gtggaggagg aggatgctgc aacctattac 720
 tgtcagcaca gtagggagct tccattcacg ttcggctcgg ggacaaagtt ggaaataaag 780

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